

PRACTICAL SPAN RANGES FOR STRUCTURAL SYSTEMS

This chart gives practical ranges for various structural systems. Greater or lesser spans may be possible in some circumstances. Page references are included where a system is covered in greater detail elsewhere in this book.

			Span Range							
STRUCTURAL SYSTEM		Pages	10' 3m	20' 6m	30' 9m	50' 15m	100' 30m	200' 60m	300' 90m	500' 150m
WOOD	Joists	56–57	—	—	—	—	—	—	—	—
	Decking	54–55	—	—	—	—	—	—	—	—
	Solid Beams	60–61	—	—	—	—	—	—	—	—
	Rafter Pairs	58–59	—	—	—	—	—	—	—	—
	Light Floor Trusses	64–65	—	—	—	—	—	—	—	—
	Light Roof Trusses	64–65	—	—	—	—	—	—	—	—
	Glue Laminated Beams	62–63	—	—	—	—	—	—	—	—
	Heavy Trusses	66–67	—	—	—	—	—	—	—	—
	Glue Laminated Arches	68–69	—	—	—	—	—	—	—	—
	Domes		—	—	—	—	—	—	—	—
BRICK & CONCRETE	Lintels	74–75	—	—	—	—	—	—	—	—
		84–85	—	—	—	—	—	—	—	—
STEEL	Corrugated Decking	96–97	—	—	—	—	—	—	—	—
	Light Gauge Joists	90–91	—	—	—	—	—	—	—	—
	Beams	98–99	—	—	—	—	—	—	—	—
	Open-Web Joists	100–101	—	—	—	—	—	—	—	—
	Single-Story Rigid Frame	102–103	—	—	—	—	—	—	—	—
	Heavy Trusses	104–105	—	—	—	—	—	—	—	—
	Arches and Vaults		—	—	—	—	—	—	—	—
	Space Frame		—	—	—	—	—	—	—	—
	Domes		—	—	—	—	—	—	—	—
	Cable-Stayed		—	—	—	—	—	—	—	—
	Suspension		—	—	—	—	—	—	—	—
PRECAST CONCRETE	One-Way Slabs	114–115	—	—	—	—	—	—	—	—
	Two-Way Slabs	118–121	—	—	—	—	—	—	—	—
	One-Way Joists	116–117	—	—	—	—	—	—	—	—
	Waffle Slab	122–123	—	—	—	—	—	—	—	—
	Beams	112–113	—	—	—	—	—	—	—	—
	Folded Plates and Shells		—	—	—	—	—	—	—	—
	Domes		—	—	—	—	—	—	—	—
	Arches		—	—	—	—	—	—	—	—
PRECAST CONCRETE	Slabs	132–133	—	—	—	—	—	—	—	—
	Beams	130–131	—	—	—	—	—	—	—	—
	Double Tees	134–135	—	—	—	—	—	—	—	—
	Single Tees	134–135	—	—	—	—	—	—	—	—
PNEUMATIC	Air Inflated		—	—	—	—	—	—	—	—
	Air Supported		—	—	—	—	—	—	—	—